DOE–LM/1524–2007

Verification Monitoring Report for the Gunnison, Colorado, Processing Site

September 2007

U.S. Department of Energy

Office of Legacy Management

Work Performed Under DOE Contract No. DE–AC01–02GJ79491
for the U.S. Department of Energy Office of Legacy Management.

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Acronyms and Abbreviations

CDPHE	Colorado Department of Public Health and Environment
CFR	United States *Code of Federal Regulations*
COPC	constituent(s) of potential concern
DOE	U.S. Department of Energy
DWEL	Drinking Water Equivalent Level
EPA	U. S. Environmental Protection Agency
ft	foot (feet)
GCAP	Ground Water Compliance Action Plan
IC	institutional control(s)
LM	Legacy Management
MCL	maximum concentration limit
mg/L	milligram(s) per liter
NRC	U.S. Nuclear Regulatory Commission
RRM	residual radioactive material
SOWP	Site Observational Work Plan
UMTRA	Uranium Mill Tailings Remedial Action
VMR	Verification Monitoring Report

End of current text

1.0 Introduction

The former Gunnison uranium processing site is located in Gunnison County, Colorado, approximately 0.5 mile southwest of the City of Gunnison, between the Gunnison River and Tomichi Creek (Figure 1). Site characterization details for the site are available in the Final Site Observational Work Plan (SOWP) (DOE 2001).

The compliance strategy for ground water cleanup at the Gunnison site is natural flushing in conjunction with continued ground water and surface water monitoring and institutional controls (IC). Ground water modeling predicts that natural flushing of the alluvial aquifer will be completed within the 100-year timeframe specified in Subpart B of title 40 of the *Code of Federal Regulations,* Section 192 (40 CFR 192). The U.S. Department of Energy (DOE) and the Colorado Department of Public Health and Environment (CDPHE) funded an alternate domestic water supply system in 1994, with upgrades in 2005, to service existing ground water users in the area of potentially contaminated ground water and to provide a potable water source for future development within the IC area.

Detailed information for the Gunnison site and water quality data through 1999 are found in the SOWP (DOE 2001). Water quality data from 2000 through 2006 are found in previous Verification Monitoring Reports (VMR) (DOE 2003, 2004b, 2005b, and 2006). Water quality data for 2007 are provided in Appendices A through C of this report. All water quality data for the Gunnison site are archived in the SEEPro database at the DOE Office of Legacy Management (LM) in Grand Junction, Colorado.

The purpose of this VMR is to present and evaluate ground water and surface water monitoring data collected during the annual 2007 sampling event at the Gunnison site and to provide an update on the progress of the natural flushing compliance strategy.

2.0 Site Conditions

2.1 Hydrogeology

Ground water occurs under unconfined conditions in the alluvial (uppermost) aquifer, with an average depth to the water table of 5 feet (ft). The alluvium is composed of poorly sorted sediments ranging from clay-sized material to gravel, with cobbles and occasional boulders. It ranges in thickness from 70 to 130 ft. Ground water in the alluvial aquifer generally flows to the southwest, with an average gradient of 0.005 ft/ft. Hydraulic conductivity ranges from 100 to 170 feet per day (ft/day). The average linear ground water velocity ranges from 1.9 to 3.2 ft/day.

Ground water in the alluvial aquifer system is recharged by ground water underflow, adjacent streams, precipitation, flood irrigation of the pasture downgradient from the site, and irrigation of the golf course and residential areas southwest of the site. Ground water is discharged naturally to adjacent streams and by evapotranspiration. Ground water also is discharged via dewatering operations at the Valco Inc. gravel pit located south of the site.

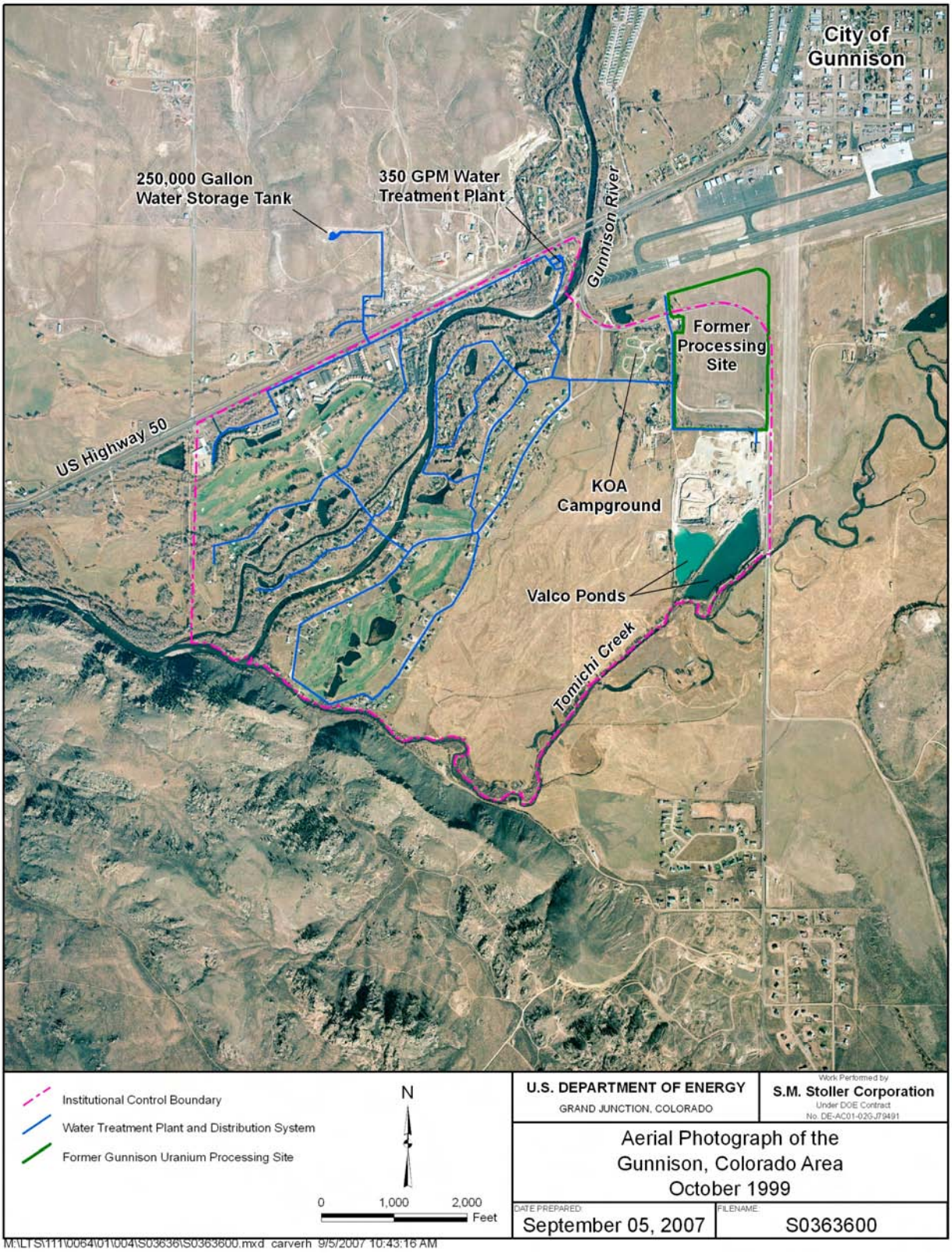

Figure 1. Aerial Photograph of the Gunnison, Colorado, Area – October 1999

2.2 Water Quality

Ground water in the alluvial aquifer beneath and downgradient from the Gunnison site was contaminated by uranium processing activities. A variety of tailings-related contaminants in the subsurface and ground water at the site were evaluated and the potential risks to human health and the environment were assessed in the SOWP (DOE 2001). Only uranium and manganese were identified as constituents of potential concern (COPC) because they exceeded a ground water standard and risk-based benchmark, respectively.

Uranium is the primary COPC in ground water, with concentrations measured up to 1.5 milligrams per liter (mg/L) beneath the site in the past, and currently exceeding the U.S. Environmental Protection Agency (EPA) Uranium Mill Tailings Redial Action (UMTRA) maximum concentration limit (MCL) of 0.044 mg/L for ground water in several monitor wells on-site and one monitor well (0183) more than 4,000 ft downgradient from the site boundary. Concentrations of uranium in ground water below the MCL, but above background, extend approximately 7,000 ft downgradient from the site boundary and have migrated beneath the Gunnison River just beyond the confluence with Tomichi Creek. The zone of contamination attenuates and migrates deeper into the aquifer as it progresses laterally in a southwesterly direction.

Manganese is also a COPC in ground water, with concentrations measured up to 77 mg/L beneath the site in the past. There is no MCL for manganese. The EPA Drinking Water Equivalent Level (DWEL) for manganese is 1.6 mg/L (EPA 2004). The DWEL is a lifetime-exposure concentration protective of adverse, non-cancer health effects that assumes all of the exposure to a contaminant is from drinking water. Concentrations of manganese are above the DWEL beneath the site and in two downgradient monitor wells (0135 and 0187). Manganese does not appear to be widespread in the aquifer, and concentrations beneath the site are decreasing.

2.3 Surface Remediation Activities

Uranium mill tailings and other residual radioactive material (RRM) were removed from the former millsite from 1992 through 1995 and stabilized in a disposal cell 6 miles east of the city of Gunnison. RRM beneath the site was cleaned up to just below the water table, with some contaminated material left in place per application of supplemental standards. The site was backfilled with clean fill and revegetated after RRM removal.

2.4 Institutional Controls

ICs in effect in the vicinity of the Gunnison site were finalized in 2004 and consist of deed restrictions on the original millsite property (specified in a Quit Claim Deed transferring the property from the State of Colorado to Gunnison County), a Gunnison County Resolution (Gunnison County 2004) establishing the New Domestic Well Constraint Area, and construction of a domestic water supply system. The Quit Claim Deed specifies restrictions on and approvals needed for excavation, ground water use, and construction of habitable structures. The New Domestic Well Constraint Area is delineated by the IC boundary (Figure 1), and the Gunnison County Resolution specifies that no new wells can be constructed within the constraint area. In 2004, DOE entered into a cooperative agreement with Gunnison County, approved by the

U.S. Nuclear Regulatory Commission (NRC) (DOE 2004a), in which DOE (along with CDPHE) agreed to fund an extension of the domestic water supply system to account for potential future growth within the IC boundary (Figure 1). Domestic wells within the IC boundary that are not connected to the water system are monitored to ensure COPC concentrations remain low and below the MCL or DWEL.

3.0 Monitoring Program

Verification monitoring is currently being performed on an annual basis, and will be continued annually for the first 5 years after NRC concurrence with the Ground Water Compliance Action Plan (GCAP) (DOE 2005a), to ascertain that natural flushing is progressing as predicted by ground water flow and transport modeling (DOE 2001). The GCAP is currently in review with NRC. A review of the monitoring program will be conducted after the first 5 years to determine if a change in the frequency of monitoring is warranted. Ongoing monitoring requirements will be evaluated in subsequent VMRs and modified as determined by DOE and NRC.

The monitoring network during 2007 included sampling of 26 DOE monitor wells, 5 surface water locations, and 10 domestic wells (Figure 2 and Table 1). On-site monitor wells 0006, 0012, and 0013 in the shallow aquifer zone were dry because of low water levels (due to gravel mine de-watering south of the site) and were not sampled during 2007. The COPCs, uranium and manganese, were analyzed in 2007, and results are presented in this report.

4.0 Results of 2007 Monitoring

Analytical data for uranium and manganese in ground water in DOE monitor wells, domestic wells, and surface water for 2007 are discussed below and provided in Appendices A through C, respectively. The distributions of uranium and manganese in ground water in the alluvial aquifer, based on the 2007 sampling event, are shown in Figure 3 and Figure 4, respectively. Time versus concentration plots for uranium and manganese in DOE monitor wells, domestic wells, and surface water, from 1997 (post-remedial action) through 2007, are also shown below.

4.1 DOE Monitor Wells

Though not separated lithologically, the alluvial aquifer (up to 130 ft thick) has been divided into three zones to facilitate monitoring (wells screened to monitor these zones separately) and discussion of vertical contaminant migration: (1) shallow zone from 10 to 15 ft; (2) intermediate zone from 35 to 60 ft; and (3) deep zone from 90 to 100 ft (Table 1). Time versus concentration plots for uranium and manganese in DOE monitor wells have been grouped by monitor wells on-site, and in three downgradient sectors, to show the relationship between distance downgradient from the site and depth in the aquifer.

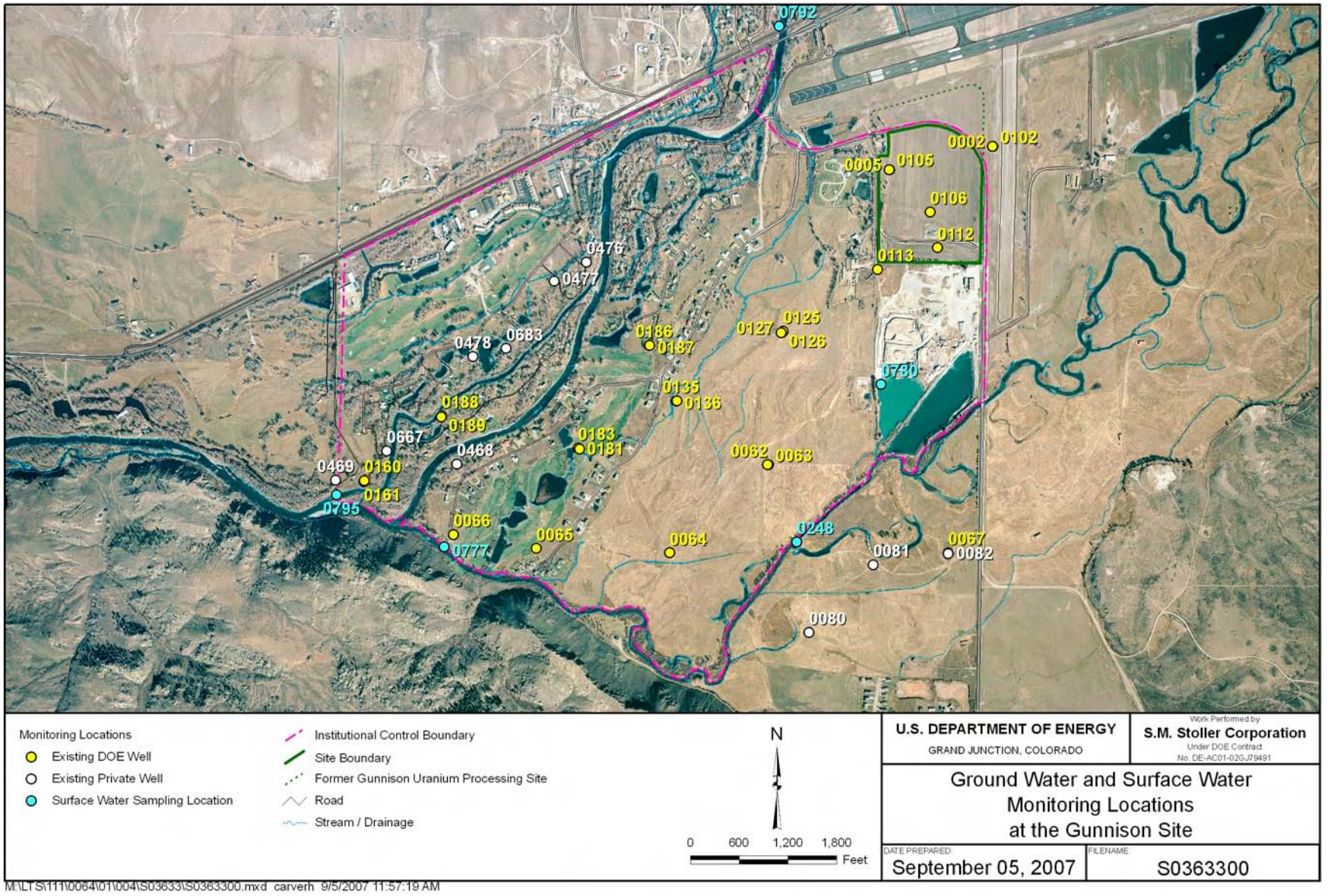

Figure 2. Monitoring Network for 2007 at the Gunnison Site

Table 1. Ground Water and Surface Water Monitoring at the Gunnison Site

Monitor Well	Aquifer Zone	Screened Interval	Location	Rationale (Uranium)
Ground Water				
0002	Shallow	10–15	Airport	Upgradient
0102	Intermediate	42–47	Airport	Upgradient
0005	Shallow	10-15	On-site	Upgradient edge of plume
0105	Intermediate	42–47	On-site	Upgradient edge of plume
0106	Intermediate	34–39	On-site	Monitor vertical migration
0112	Intermediate	40–45	On-site	Monitor vertical migration
0113	Intermediate	41–46	Just off-site	Monitor plume migration
0125	Shallow	18–23	Valco pasture	Monitor plume migration
0126	Intermediate	54–59	Valco pasture	Monitor plume migration
0127	Deep	94–99	Valco pasture	Monitor plume migration
0135	Shallow	18–23	Valco pasture	Monitor plume migration
0136	Intermediate	53–58	Valco pasture	Monitor plume migration
0064	Deep	87–97	Valco pasture	Monitor plume migration
0062	Intermediate	48–58	Valco pasture	Monitor plume migration
0063	Deep	88–98	Valco pasture	Monitor plume migration
0181	Shallow	18–23	Golf course	Monitor plume migration
0183	Deep	93–98	Golf course	Monitor plume migration
0065	Intermediate	50–60	Golf course	Monitor plume migration
0066	Intermediate	40–50	End of Tomichi Trail	Monitor plume migration
0186	Intermediate	53–58	End of Monte Vista Dr.	Monitor plume migration
0187	Deep	93-98	End of Monte Vista Dr.	Monitor plume migration
0188	Intermediate	53–58	West of Gunnison River	Monitor plume migration
0189	Deep	93–98	West of Gunnison River	Monitor plume migration
0160	Intermediate	51–56	West of Gunnison River	Adjacent to IC boundary
0161	Deep	93–98	West of Gunnison River	Adjacent to IC boundary
0067	Intermediate	40–50	South of Tomichi Creek	Confirm results in domestic well 0082
Surface Water				
0248	NA		Tomichi Creek	Downstream of Valco pond
0777	NA		Tomichi Creek	Downstream – potential aquifer discharge
0780	NA		Valco, Inc., gravel pit	Gravel pit discharge
0792	NA		Gunnison River	Upstream
0795	NA		Gunnison River	Downstream
Domestic Wells		**Use**		
0080	Intermediate	Potable	South of Tomichi Creek	Verify plume not beyond IC boundary
0081	Intermediate	Not in use	South of Tomichi Creek	Verify plume not beyond IC boundary
0082	Intermediate	Not in use	South of Tomichi Creek	Verify plume not beyond IC boundary
0468	Shallow	Not in use	East of Gunnison River	Elevated uranium concentrations
0469	Shallow	Potable	West of Gunnison River	Verify low COPC concentrations
0476	Shallow	Potable	West of Gunnison River	Verify low COPC concentrations
0477	Shallow	Potable	West of Gunnison River	Verify low COPC concentrations
0478	Shallow	Potable	West of Gunnison River	Verify low COPC concentrations
0667	Shallow	Potable	West of Gunnison River	Verify low COPC concentrations
0683	Shallow	Potable	West of Gunnison River	Verify low COPC concentrations

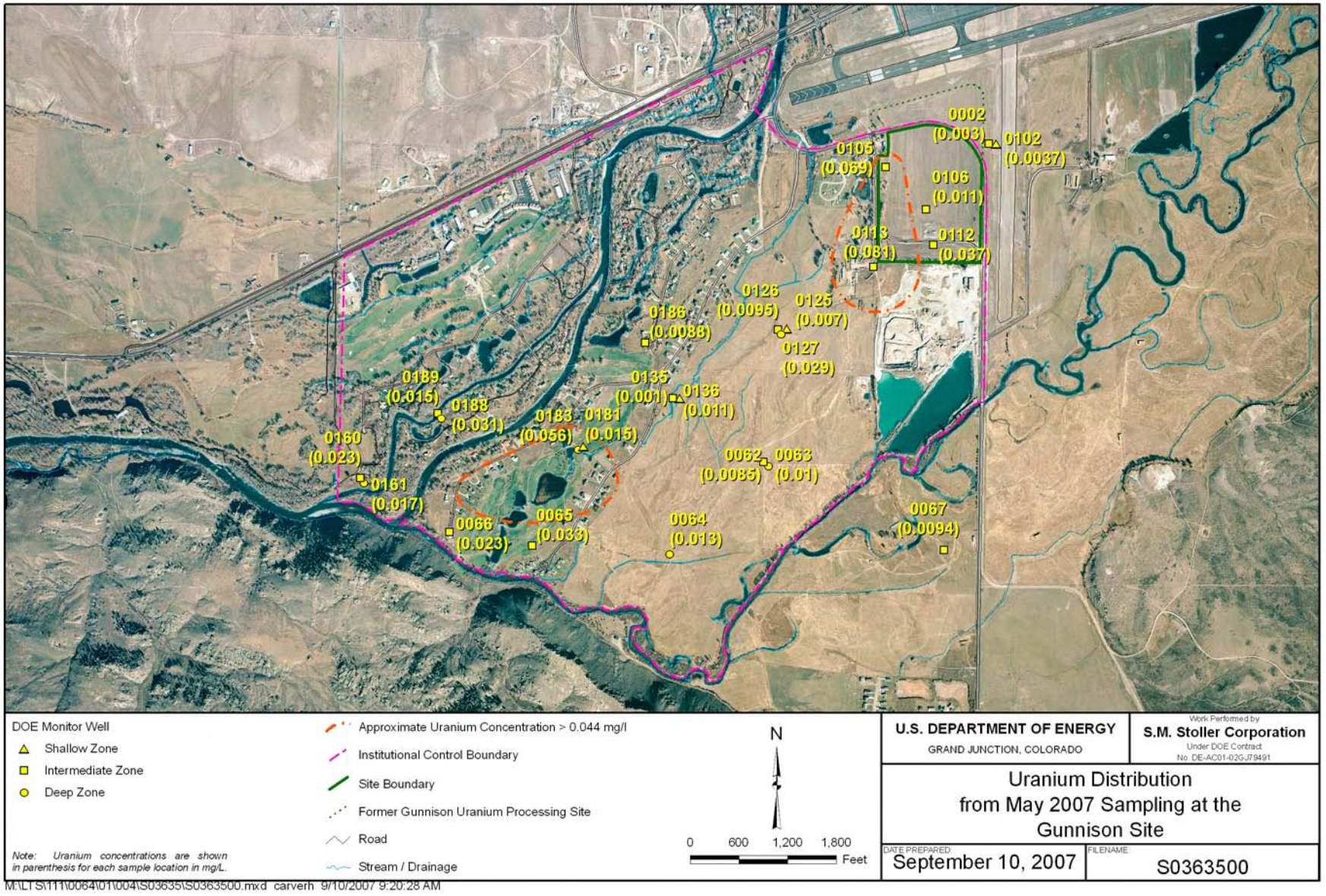

Figure 3. Distribution of Uranium at the Gunnison Site

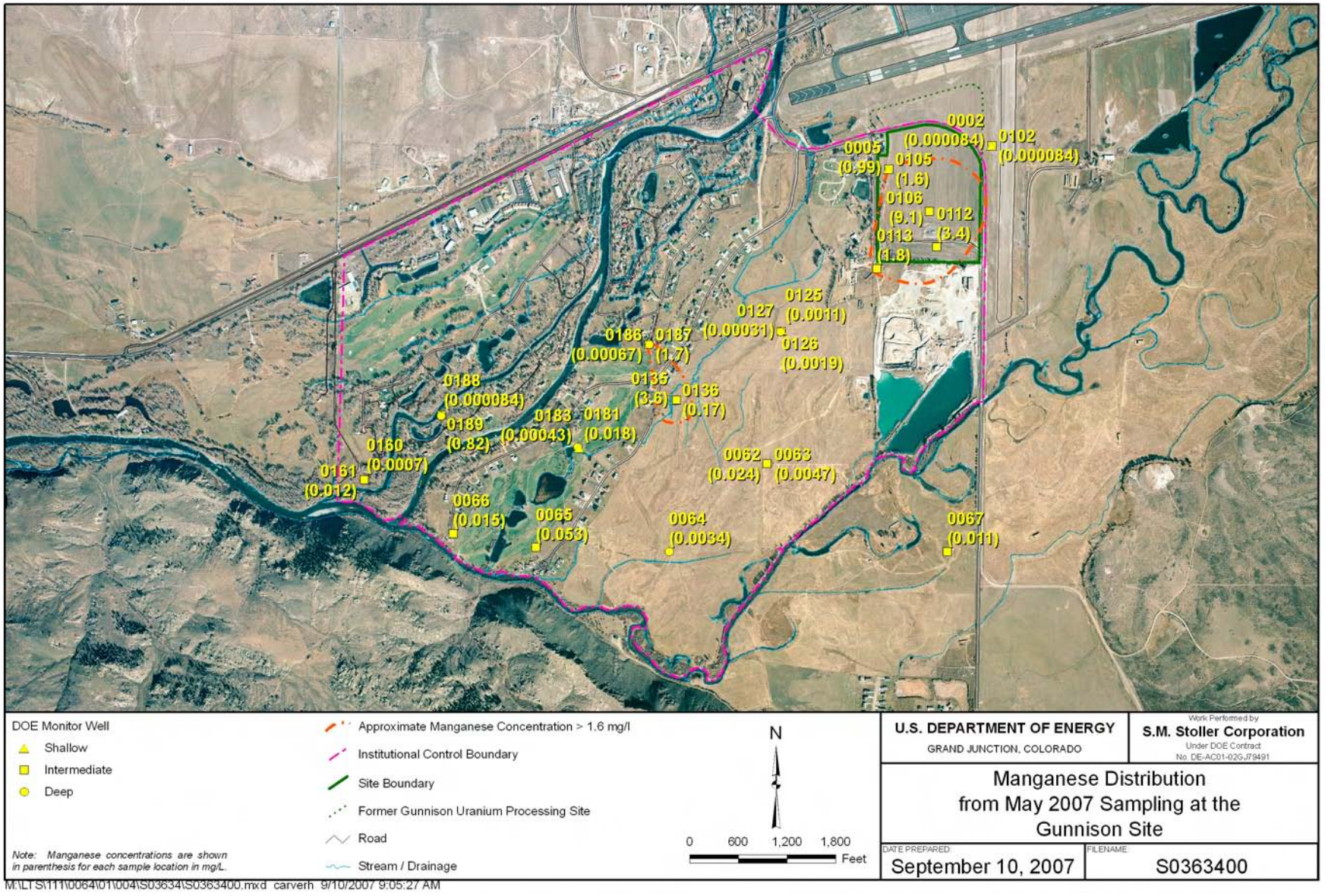

Figure 4. Distribution of Manganese at the Gunnison Site

Concentrations of uranium in ground water beneath the site are still at or above the MCL of 0.044 mg/L in several wells in the shallow and intermediate zones (Figure 5). Information is not available from monitor wells 0006 and 0012, which have had the highest historical uranium concentrations, as they were dry and not sampled during 2007. Results from the 2007 sampling event indicate that uranium in ground water is still generally decreasing and migrating deeper in the alluvial sequence while progressing downgradient from the site, which is consistent with historical data and model predictions (Figure 6, Figure 7, and Figure 8). The MCL was not exceeded in any shallow- or intermediate-zone monitor well downgradient from the site. However, the MCL was exceeded in the deep zone (well 0183) 4,400 ft downgradient from the site (Figure 7). The distribution of uranium throughout the alluvial aquifer in each of the three zones is summarized in Table 2.

Table 2. Summary of 2007 Uranium Distribution at the Gunnison Site

Area	Zone	Wells	Uranium Concentration[a] (mg/L)
Upgradient	Shallow	0002	0.003
	Intermediate	0102	0.004
On-site and Just Off-Site	Shallow	0005	0.076
	Intermediate	0105, 0106, 0112, 0113	0.050
Downgradient (Before Gunnison River)	Shallow	0125, 0135, 0181	0.008
	Intermediate	0062, 0065, 0066, 0126, 0136, 0186	0.016
	Deep	0063, 0064, 0127, 0183, 0187	0.027
Downgradient (Beyond Gunnison River)	Intermediate	0160, 0188	0.027
	Deep	0161, 0189	0.016

[a]Uranium concentrations from 2007 sampling event. If more than one well is listed, the concentration is the mean value.

Concentrations of manganese in ground water beneath the Gunnison site are above the DWEL of 1.6 mg/L in several wells in the intermediate zone, with concentrations below the DWEL in the shallow zone (Figure 9). Manganese concentrations above the DWEL in on-site wells in the intermediate zone are generally decreasing over time. Downgradient from the site, the samples collected from monitor well 0135 in the shallow zone and monitor well 0187 in the deep zone had manganese concentrations that exceeded the DWEL (Figure 10 and Figure 11). Manganese does not appear to be widespread farther downgradient in the alluvial aquifer (Figure 12).

Figure 5. Uranium Concentrations in Ground Water – On-Site DOE Monitor Wells at the Gunnison Site

Figure 6. Uranium Concentrations in Ground Water – Downgradient DOE Monitor Wells – Pasture, Near the Gunnison Site

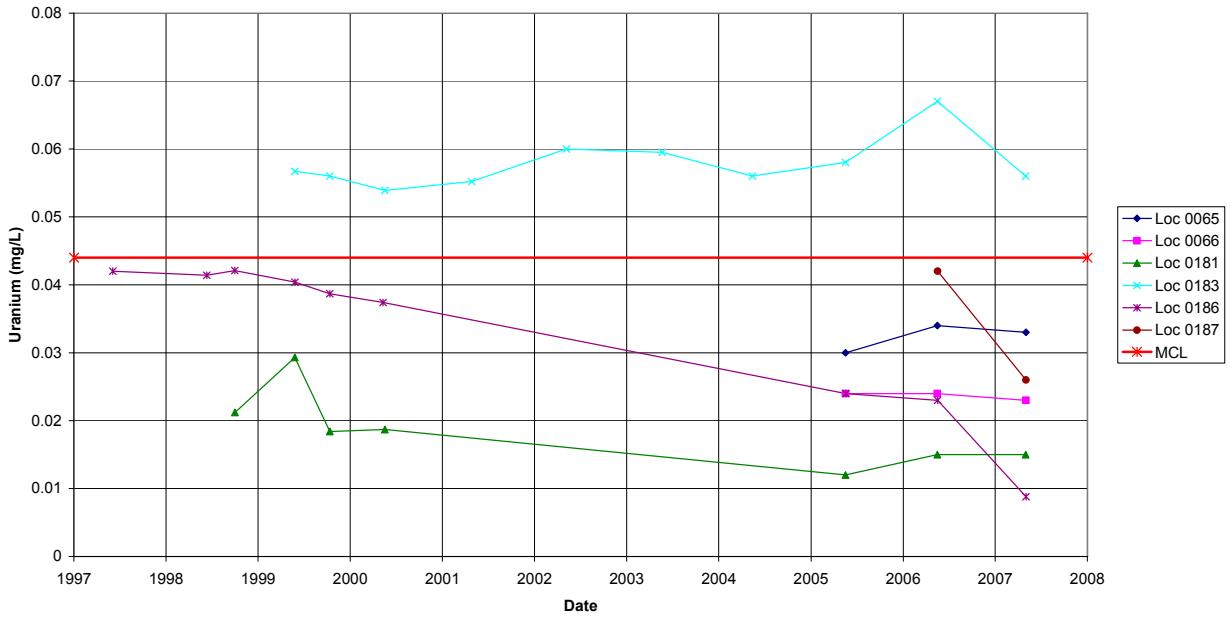

Figure 7. Uranium Concentrations in Ground Water – Downgradient DOE Monitor Wells – Golf Course and Residential, Near the Gunnison Site

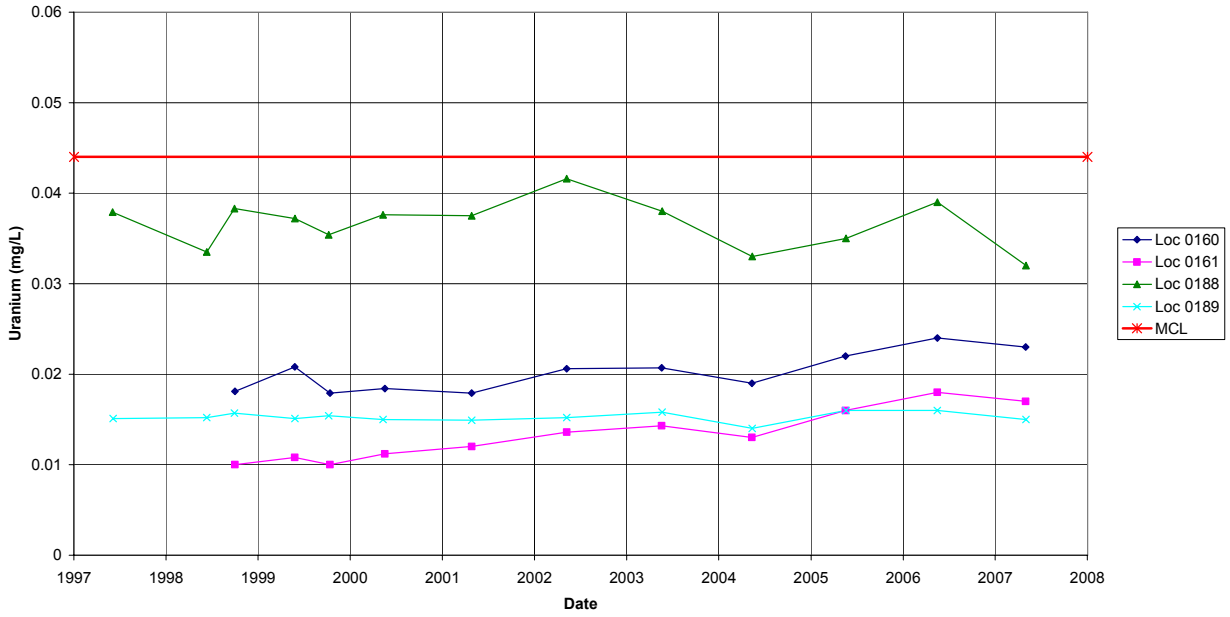

Figure 8. Uranium Concentrations in Ground Water – Downgradient DOE Monitor Wells – West of the Gunnison River, Near the Gunnison Site

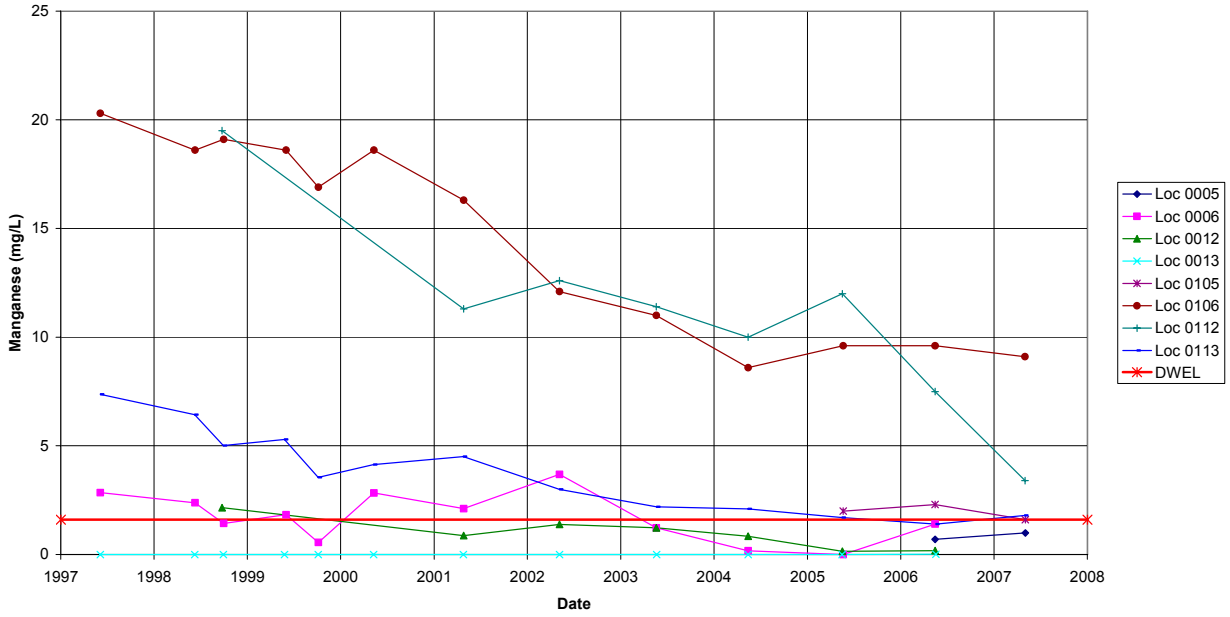

Figure 9. Manganese Concentrations in Ground Water – On-Site DOE Monitor Wells at the Gunnison Site

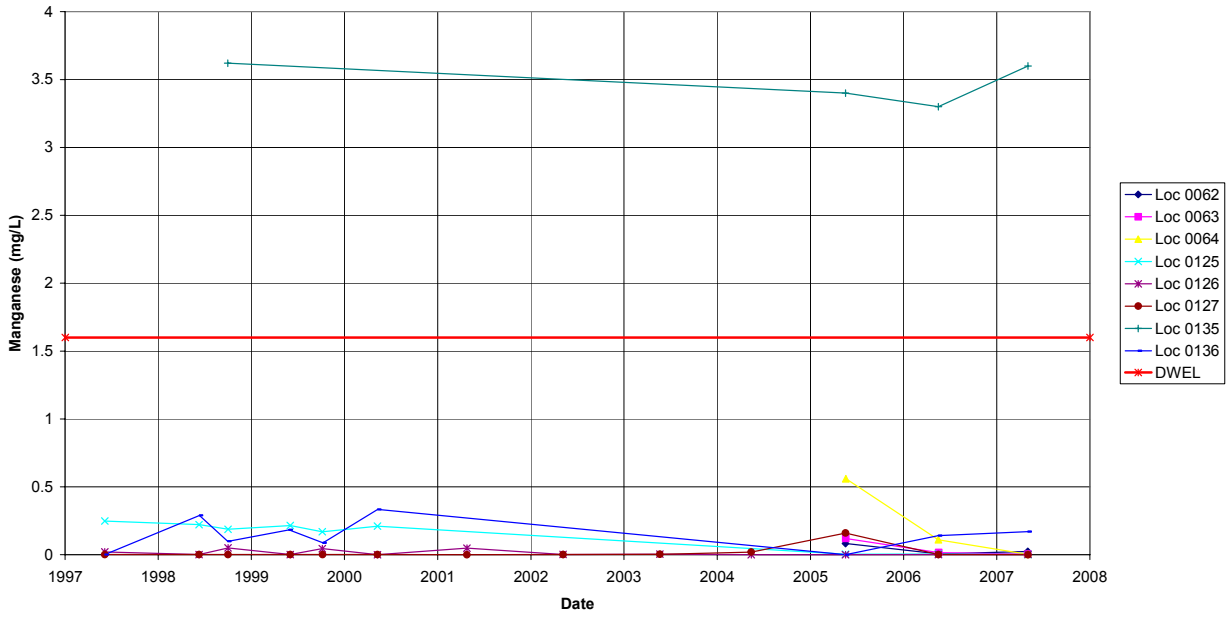

Figure 10. Manganese Concentrations in Ground Water – Downgradient DOE Monitor Wells –Pasture, Near the Gunnison Site

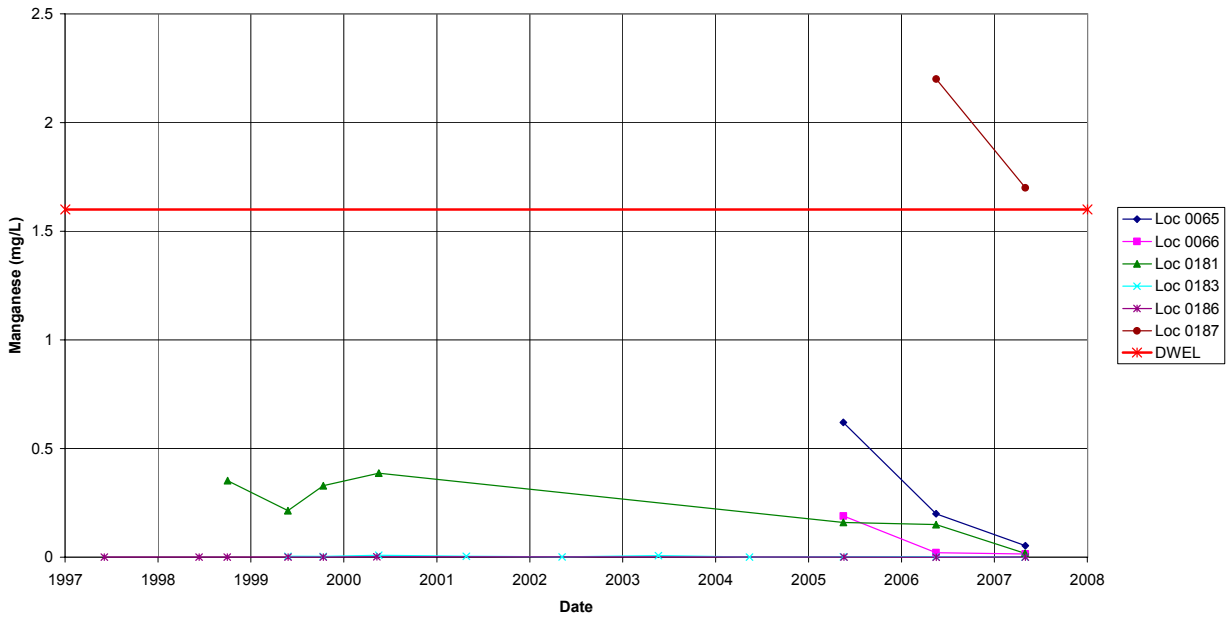

Figure 11. Manganese Concentrations in Ground Water – Downgradient DOE Monitor Wells – Golf Course and Residential, Near the Gunnison Site

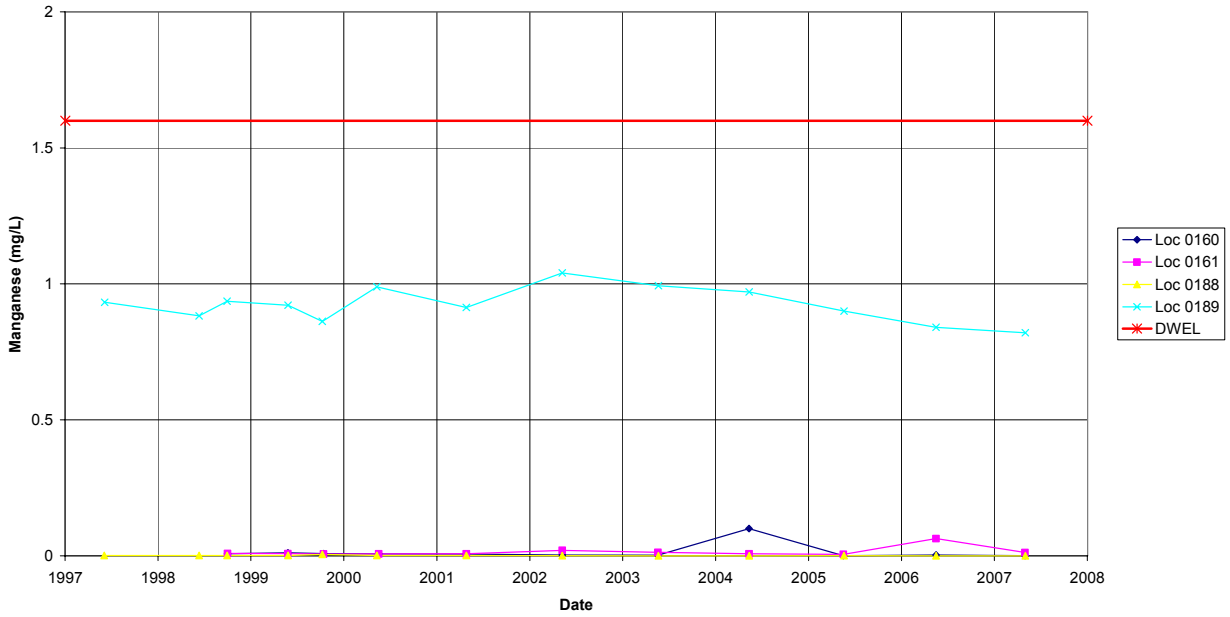

Figure 12. Manganese Concentrations in Ground Water – Downgradient DOE Monitor Wells – West of the Gunnison River, Near the Gunnison Site

4.2 Domestic Wells

Concentrations of uranium in ground water in the domestic buffer zone wells (northwest of the Gunnison River) downgradient from the site are well below the MCL of 0.044 mg/L and below the action level set by CDPHE of 0.020 mg/L (Figure 13). The concentration of uranium (0.026 mg/L) in the sample collected from domestic well 0468 (southeast of the Gunnison River and not in the buffer zone) is below the CDPHE agricultural action level of 0.200 mg/L. This well was historically used for lawn irrigation but is no longer in use because the homeowner obtains water out of the Gunnison River for irrigation. This residence is connected to the domestic water supply system.

Concentrations of uranium in ground water in three domestic wells (0080, 0081, and 0082), installed in 2002 south of Tomichi Creek, are also well below the MCL of 0.044 mg/L and below the action level set by CDPHE of 0.020 mg/L (Figure 14). Because uranium concentrations in ground water in domestic well 0082 exceeded the upper range of background (0.0085 mg/L) (DOE 1996) in 2003 (to a level of 0.0155 mg/L), DOE installed monitor well 0067 adjacent to the domestic well in order to obtain data from this portion of the aquifer from a well designed for collecting water quality samples. Results from DOE monitor well 0067 are shown in Figure 14 for comparison with the domestic wells. Migration of significant concentrations of uranium in ground water is not expected south of Tomichi Creek.

Concentrations of manganese in ground water in the domestic wells are well below the DWEL of 1.6 mg/L (Figure 15 and Figure 16).

4.3 Surface Water

Concentrations of uranium in surface water in the Gunnison River during 2007 were very low (below 0.0006 mg/L) and indicative of runoff conditions from the melting of the mountain snow pack. The concentration of uranium in surface water in the Valco, Inc., pond (0780) was below the historical low of 0.021 mg/L at 0.014 mg/L (Figure 17). The concentration of uranium in the sample collected from Tomichi Creek, approximately 1,500 ft downstream from the Valco, Inc., pond discharge point (0248), was 0.014 mg/L and the same as the uranium concentration measured in the Valco, Inc., pond. These identical concentrations reflect the rerouting of Tomichi Creek to its original channel to establish a conservation area by the landowner. The water in the abandoned channel (location 0248) is almost completely supplied by discharge from the Valco pond. The uranium concentration in the sample collected farther downstream from Tomichi Creek (0777) was lower (0.004 mg/L) as dilution occurs farther from the Valco, Inc., discharge point.

Concentrations of manganese in surface water are well below the DWEL of 1.6 mg/L and comparable to background (Figure 18).

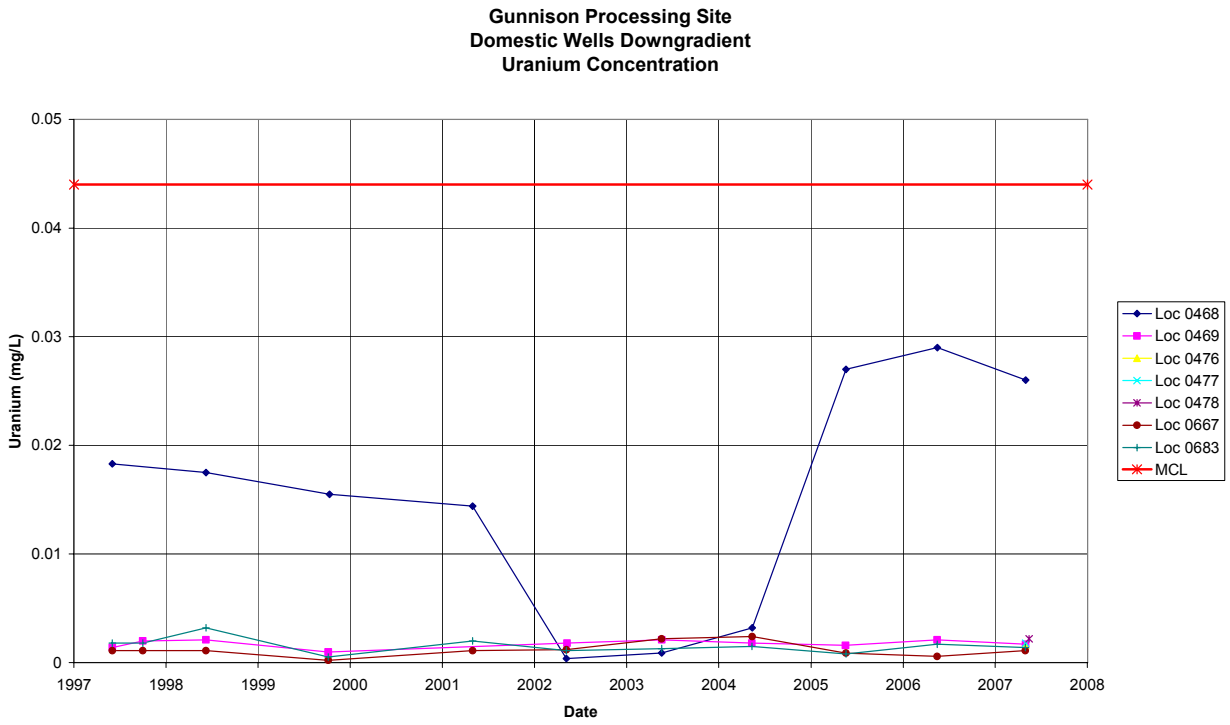

Figure 13. Uranium Concentrations in Ground Water – Domestic Wells Downgradient from the Gunnison Site

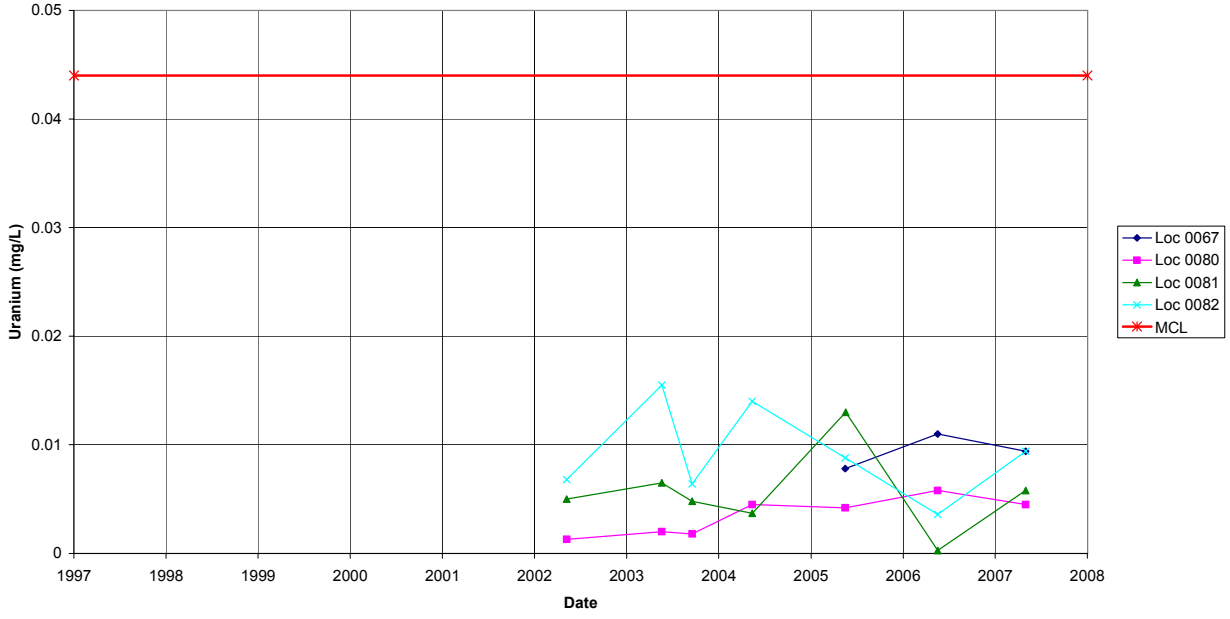

Figure 14. Uranium Concentrations in Ground Water – Domestic Wells South of Tomichi Creek

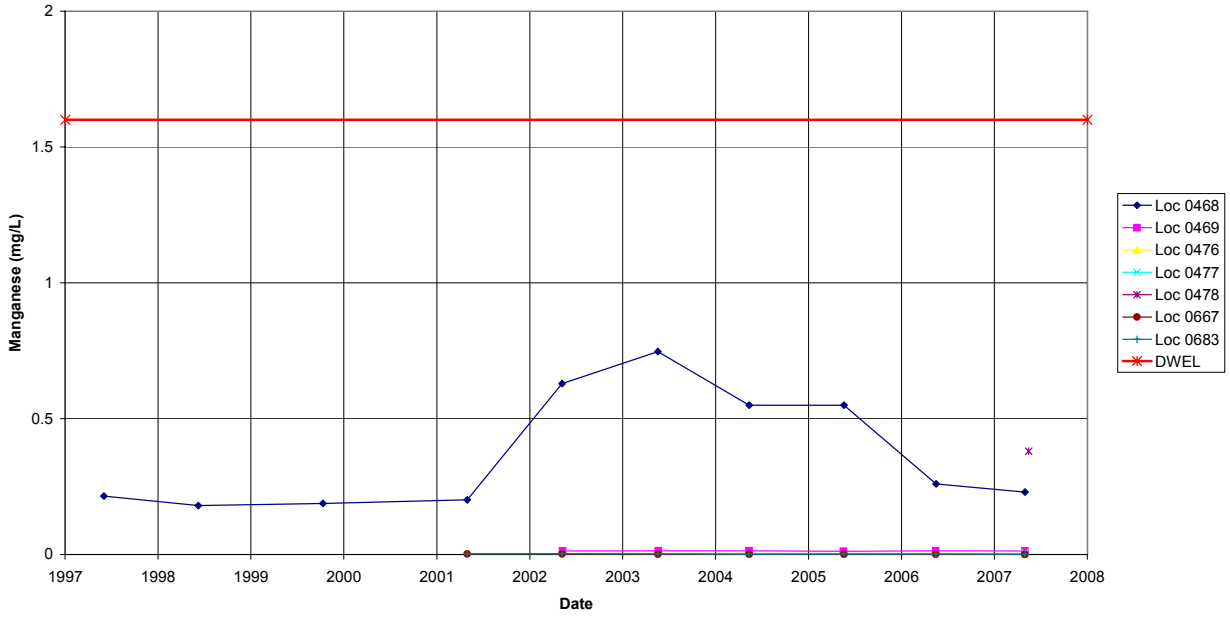

Figure 15. Manganese Concentrations in Ground Water – Domestic Wells Downgradient from the Gunnison Site

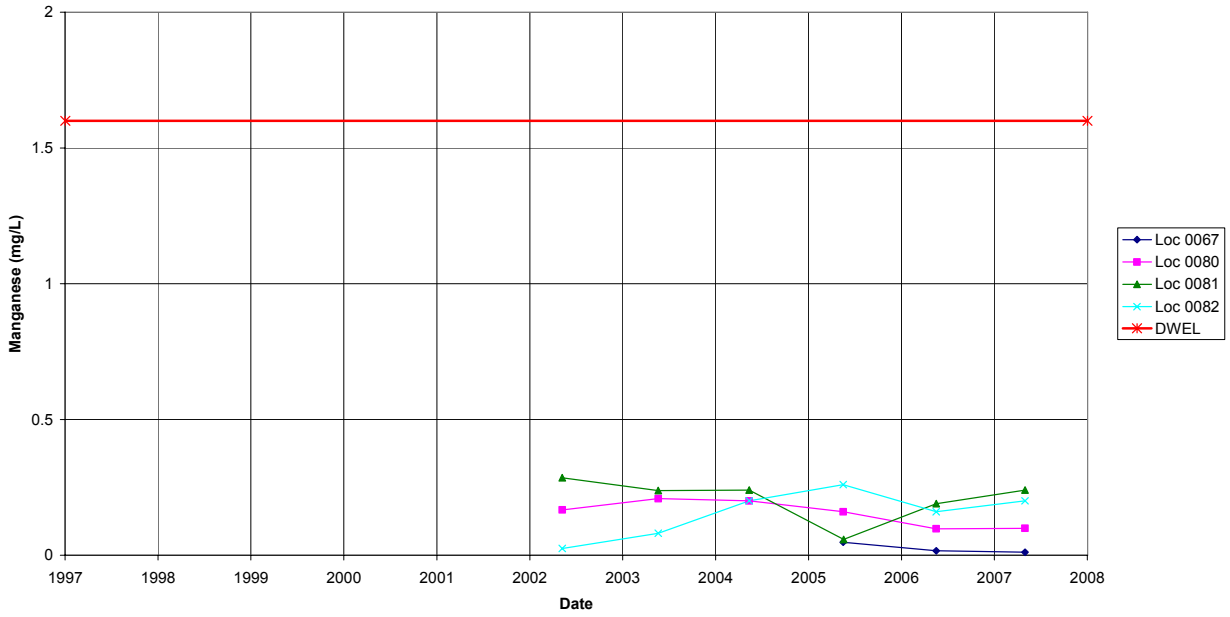

Figure 16. Manganese Concentrations in Ground Water – Domestic Wells South of Tomichi Creek

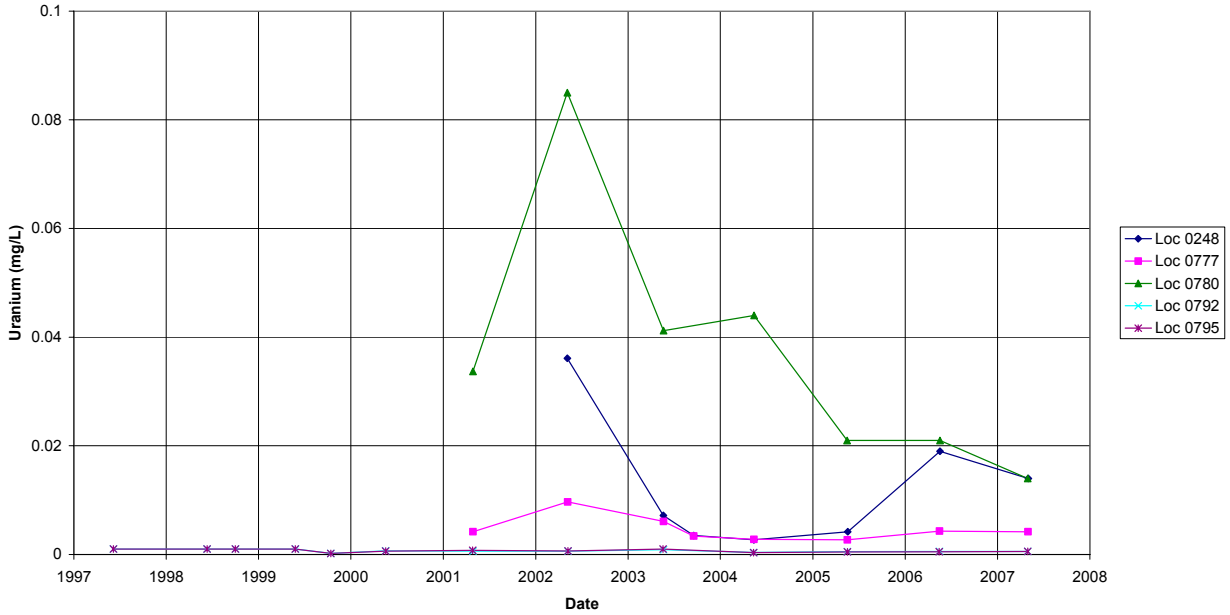

Figure 17. Uranium Concentrations in Surface Water Near the Gunnison Site

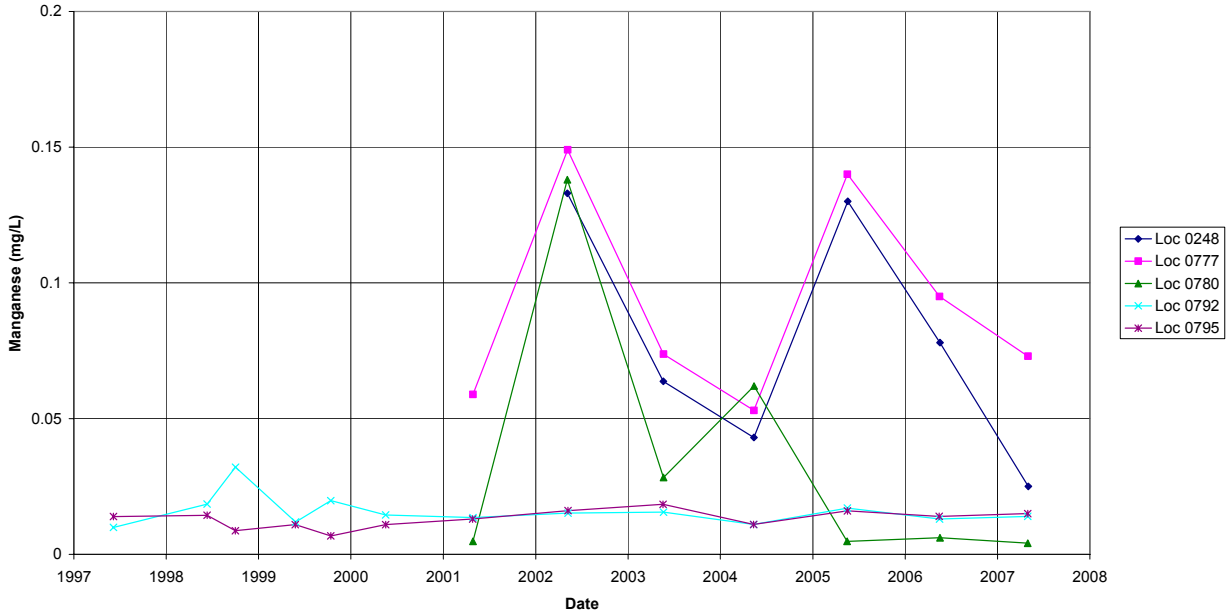

Figure 18. Manganese Concentrations in Surface Water Near the Gunnison Site

5.0 Natural Flushing Assessment

Ground water flow and transport modeling has predicted that uranium concentrations in ground water in the alluvial aquifer will decrease to below the EPA ground water standard within 100 years. Figure 19 compares uranium concentrations predicted by ground water flow and transport modeling to actual concentrations determined by analysis of ground water samples from intermediate zone monitor well 0113. This well was selected as an indicator of natural flushing progress because of its location adjacent to and immediately downgradient of the millsite, which is in an area of the aquifer that should be the first to flush as the plume migrates off the millsite. Additionally, data from this well will be used to assess potential ground water impacts from the RRM supplemental standards areas remaining on the millsite. As shown in this figure, recent concentrations are lower than concentrations predicted by the ground water model and are trending downward, which indicates that natural flushing processes have been effective and RRM remaining on the millsite is not a significant, continuous source of ground water contamination.

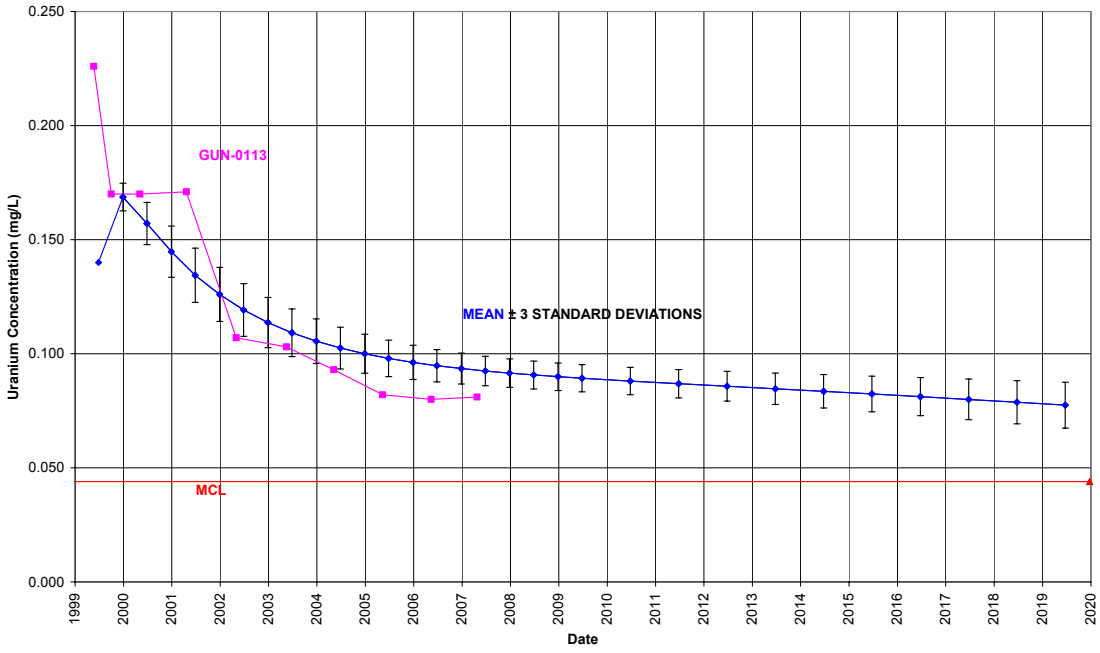

Figure 19. Uranium Concentration – Predicted and Actual – in DOE Monitor Well 0113 at the Gunnison Site

Trend analysis of uranium concentrations in ground water using the Mann-Kendall test (Gilbert 1987) was performed to assess the temporal behavior of uranium concentrations. This test determines if an upward trend, downward trend, or no trend exists. As shown in Table 3, trends of uranium concentration in monitor wells are generally indicative of conditions in the aquifer relative to depth and the distance downgradient from the site and show that contamination is migrating through the aquifer and natural flushing is progressing as predicted.

Table 3. Assessment of Uranium Concentration Trends at the Gunnison Site

Location	No. of Samples	Trend[1]	2007 Result (mg/L)	Standard[2] Exceeded in 2007 (Yes/No)
0006	13	Down	NA	NA
0012	8	None	NA	NA
0013	12	Down	NA	NA
0106	13	None	0.011	No
0112	8	Up	0.037	No
0113	13	Down	0.081	Yes
0125	9	Down	0.007	No
0126	13	Down	0.0095	No
0127	13	Down	0.029	No
0136	9	None	0.011	No
0160	11	Up	0.023	No
0161	11	Up	0.017	No
0181	7	Down	0.015	No
0183	10	None	0.056	Yes
0186	9	Down	0.0088	No
0188	13	None	0.031	No
0189	13	None	0.015	No

[1]Data from 1997 to 2007, except 0006, 0012, and 0013, which were not sampled in 2007 (dry). Only wells with more that five data points are included.
[2]0.044 mg/L from 40 CFR 192

6.0 Conclusions

Concentrations of uranium and manganese in ground water beneath the Gunnison site are still above their relevant MCL and DWEL, respectively, but are generally decreasing with time, indicating that natural flushing is progressing in the alluvial aquifer. Concentrations of uranium in ground water downgradient from the site and deeper in the alluvial aquifer in some areas are still elevated and increasing, as expected, as the plume migrates downgradient. Contaminant distribution continues to confirm the site conceptual model of contaminants migrating deeper in the alluvial aquifer with distance from the millsite.

Uranium concentrations in the domestic wells sampled near the processing site were all below the MCL and the CDPHE action level. Manganese concentrations in these wells were all below the DWEL.

Surface water uranium concentrations are compared to an estimated background value of 0.0016 mg/L from location 0792, which is located on the Gunnison River upstream from the site. The uranium concentration in the Gunnison River downstream location 0795 was less than the background value, indicating no impact to the Gunnison River from site activities. Uranium concentration at the Valco, Inc., gravel pit pond (0780) is elevated when compared to the background, which is expected because the gravel pit is recharged by ground water migrating from beneath the site. Uranium concentrations at Tomichi Creek locations (0248 and 0777) are elevated when compared to the background, which is expected because Tomichi Creek receives discharge from the Valco, Inc., pond.

Verification monitoring of COPC in ground water in the alluvial aquifer and surface water in the vicinity of the Gunnison site will continue on an annual basis to assess the progress of natural flushing. The next update to this report will be compiled after ground water and surface water monitoring in April 2008.

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End of current text

Appendix A

Ground Water Quality Data by Parameter for DOE Monitor Wells

CLASSIC GROUND WATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 11:16 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	SAMPLE: ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	QUALIFIERS: DATA	QUALIFIERS: QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3	mg/L	0002	WL	05/02/2007	0001	AL	U	223			#	-	-
	mg/L	0005	WL	05/03/2007	0001	AL	O	260		F	#	-	-
	mg/L	0062	WL	05/02/2007	0001	AL	O	197		F	#	-	-
	mg/L	0063	WL	05/02/2007	0001	AL	O	164		F	#	-	-
	mg/L	0064	WL	05/03/2007	0001	AL	O	243		F	#	-	-
	mg/L	0065	WL	05/02/2007	0001	AL	O	132		F	#	-	-
	mg/L	0066	WL	05/02/2007	0001	AL	O	119		F	#	-	-
	mg/L	0067	WL	05/01/2007	0001	AL	O	215		F	#	-	-
	mg/L	0102	WL	05/02/2007	0001	AL	U	237			#	-	-
	mg/L	0105	WL	05/03/2007	0001	AL	O	223		F	#	-	-
	mg/L	0106	WL	05/02/2007	0001	AL	O	58		FQ	#	-	-
	mg/L	0112	WL	05/02/2007	0001	AL	O	122		FQ	#	-	-
	mg/L	0113	WL	04/30/2007	0001	AL	D	213		F	#	-	-
	mg/L	0125	WL	05/03/2007	0001	AL	D	258		F	#	-	-
	mg/L	0126	WL	05/03/2007	0001	AL	D	259		F	#	-	-
	mg/L	0127	WL	05/03/2007	0001	AL	D	251		F	#	-	-
	mg/L	0135	WL	05/03/2007	0001	AL	D	49		F	#	-	-
	mg/L	0136	WL	05/03/2007	0001	AL	D	220		FQ	#	-	-
	mg/L	0160	WL	05/01/2007	0001	AL	D	172		F	#	-	-
	mg/L	0161	WL	05/01/2007	0001	AL	D	242		F	#	-	-
	mg/L	0181	WL	05/01/2007	0001	AL	D	215		F	#	-	-
	mg/L	0183	WL	05/01/2007	0001	AL	D	301		F	#	-	-
	mg/L	0186	WL	05/02/2007	0001	AL	D	211		F	#	-	-
	mg/L	0187	WL	05/02/2007	0001	AL	D	342		F	#	-	-
	mg/L	0188	WL	05/02/2007	0001	AL	D	220		F	#	-	-
	mg/L	0189	WL	05/02/2007	0001	AL	D	902		FQ	#	-	-

CLASSIC GROUND WATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 11:16 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	SAMPLE: ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	QUALIFIERS: DATA	QUALIFIERS: QA	DETECTION LIMIT	UN-CERTAINTY
Manganese	mg/L	0002	WL	05/02/2007	0001	AL	U	0.00008	U		#	8.4E-05	-
	mg/L	0005	WL	05/03/2007	0001	AL	O	0.990		F	#	8.4E-05	-
	mg/L	0062	WL	05/02/2007	0001	AL	O	0.024		F	#	8.4E-05	-
	mg/L	0063	WL	05/02/2007	0001	AL	O	0.0047	B	F	#	8.4E-05	-
	mg/L	0064	WL	05/03/2007	0001	AL	O	0.0034	B	F	#	8.4E-05	-
	mg/L	0065	WL	05/02/2007	0001	AL	O	0.053		F	#	8.4E-05	-
	mg/L	0066	WL	05/02/2007	0001	AL	O	0.015		F	#	8.4E-05	-
	mg/L	0067	WL	05/01/2007	0001	AL	O	0.011		F	#	8.4E-05	-
	mg/L	0102	WL	05/02/2007	0001	AL	U	0.00008	U		#	8.4E-05	-
	mg/L	0105	WL	05/03/2007	0001	AL	O	1.600		F	#	8.4E-05	-
	mg/L	0106	WL	05/02/2007	0001	AL	O	9.100		FQ	#	8.4E-05	-
	mg/L	0112	WL	05/02/2007	0001	AL	O	3.400		FQ	#	8.4E-05	-
	mg/L	0113	WL	04/30/2007	0001	AL	D	1.800		F	#	8.4E-05	-
	mg/L	0125	WL	05/03/2007	0001	AL	D	0.0011	B	UF	#	8.4E-05	-
	mg/L	0126	WL	05/03/2007	0001	AL	D	0.0019	B	F	#	8.4E-05	-
	mg/L	0127	WL	05/03/2007	0001	AL	D	0.00031	B	UF	#	8.4E-05	-
	mg/L	0135	WL	05/03/2007	0001	AL	D	3.600		F	#	8.4E-05	-
	mg/L	0136	WL	05/03/2007	0001	AL	D	0.170		FQ	#	8.4E-05	-
	mg/L	0160	WL	05/01/2007	0001	AL	D	0.0007	B	UF	#	8.4E-05	-
	mg/L	0161	WL	05/01/2007	0001	AL	D	0.012		F	#	8.4E-05	-
	mg/L	0181	WL	05/01/2007	0001	AL	D	0.018		F	#	8.4E-05	-
	mg/L	0183	WL	05/01/2007	0001	AL	D	0.00043	B	UF	#	8.4E-05	-
	mg/L	0186	WL	05/02/2007	0001	AL	D	0.00067	B	F	#	8.4E-05	-
	mg/L	0187	WL	05/02/2007	0001	AL	D	1.700		F	#	8.4E-05	-
	mg/L	0188	WL	05/02/2007	0001	AL	D	0.00008	U	F	#	8.4E-05	-
	mg/L	0188	WL	05/02/2007	0002	AL	D	0.00021	B	UF	#	8.4E-05	-

CLASSIC GROUND WATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 11:16 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	SAMPLE: ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	QUALIFIERS: DATA	QUALIFIERS: QA	DETECTION LIMIT	UN-CERTAINTY
Manganese	mg/L	0189	WL	05/02/2007	0001	AL	D	0.820		FQ	#	8.4E-05	-
Oxidation Reduction Potent	mV	0002	WL	05/02/2007	N001	AL	U	1.77			#	-	-
	mV	0005	WL	05/03/2007	N001	AL	O	48		F	#	-	-
	mV	0062	WL	05/02/2007	N001	AL	O	32		F	#	-	-
	mV	0063	WL	05/02/2007	N001	AL	O	56		F	#	-	-
	mV	0064	WL	05/03/2007	N001	AL	O	114		F	#	-	-
	mV	0065	WL	05/02/2007	N001	AL	O	92		F	#	-	-
	mV	0066	WL	05/02/2007	N001	AL	O	170		F	#	-	-
	mV	0067	WL	05/01/2007	N001	AL	O	52		F	#	-	-
	mV	0102	WL	05/02/2007	N001	AL	U	164			#	-	-
	mV	0105	WL	05/03/2007	N001	AL	O	46		F	#	-	-
	mV	0106	WL	05/02/2007	N001	AL	O	114		FQ	#	-	-
	mV	0112	WL	05/02/2007	N001	AL	O	109		FQ	#	-	-
	mV	0113	WL	04/30/2007	N001	AL	D	123		F	#	-	-
	mV	0125	WL	05/03/2007	N001	AL	D	103		F	#	-	-
	mV	0126	WL	05/03/2007	N001	AL	D	88		F	#	-	-
	mV	0127	WL	05/03/2007	N001	AL	D	108		F	#	-	-
	mV	0135	WL	05/03/2007	N001	AL	D	22		F	#	-	-
	mV	0136	WL	05/03/2007	N001	AL	D	17		FQ	#	-	-
	mV	0160	WL	05/01/2007	N001	AL	D	143		F	#	-	-
	mV	0161	WL	05/01/2007	N001	AL	D	134		F	#	-	-
	mV	0181	WL	05/01/2007	N001	AL	D	110		F	#	-	-
	mV	0183	WL	05/01/2007	N001	AL	D	115		F	#	-	-
	mV	0186	WL	05/02/2007	N001	AL	D	-5		F	#	-	-
	mV	0187	WL	05/02/2007	N001	AL	D	12		F	#	-	-
	mV	0188	WL	05/02/2007	N001	AL	D	159		F	#	-	-

CLASSIC GROUND WATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 11:16 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	SAMPLE: ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	QUALIFIERS: DATA	QUALIFIERS: QA	DETECTION LIMIT	UN-CERTAINTY
Oxidation Reduction Potent	mV	0189	WL	05/02/2007	N001	AL	D	21		FQ	#	-	-
pH	s.u.	0002	WL	05/02/2007	N001	AL	U	7.21			#	-	-
	s.u.	0005	WL	05/03/2007	N001	AL	O	7.26		F	#	-	-
	s.u.	0062	WL	05/02/2007	N001	AL	O	7.50		F	#	-	-
	s.u.	0063	WL	05/02/2007	N001	AL	O	7.51		F	#	-	-
	s.u.	0064	WL	05/03/2007	N001	AL	O	7.39		F	#	-	-
	s.u.	0065	WL	05/02/2007	N001	AL	O	7.39		F	#	-	-
	s.u.	0066	WL	05/02/2007	N001	AL	O	7.26		F	#	-	-
	s.u.	0067	WL	05/01/2007	N001	AL	O	7.14		F	#	-	-
	s.u.	0102	WL	05/02/2007	N001	AL	U	7.44			#	-	-
	s.u.	0105	WL	05/03/2007	N001	AL	O	7.16		F	#	-	-
	s.u.	0106	WL	05/02/2007	N001	AL	O	5.79		FQ	#	-	-
	s.u.	0112	WL	05/02/2007	N001	AL	O	6.47		FQ	#	-	-
	s.u.	0113	WL	04/30/2007	N001	AL	D	6.97		F	#	-	-
	s.u.	0125	WL	05/03/2007	N001	AL	D	7.37		F	#	-	-
	s.u.	0126	WL	05/03/2007	N001	AL	D	7.44		F	#	-	-
	s.u.	0127	WL	05/03/2007	N001	AL	D	7.30		F	#	-	-
	s.u.	0135	WL	05/03/2007	N001	AL	D	6.88		F	#	-	-
	s.u.	0136	WL	05/03/2007	N001	AL	D	8.06		FQ	#	-	-
	s.u.	0160	WL	05/01/2007	N001	AL	D	6.66		F	#	-	-
	s.u.	0161	WL	05/01/2007	N001	AL	D	6.67		F	#	-	-
	s.u.	0181	WL	05/01/2007	N001	AL	D	7.39		F	#	-	-
	s.u.	0183	WL	05/01/2007	N001	AL	D	6.67		F	#	-	-
	s.u.	0186	WL	05/02/2007	N001	AL	D	7.49		F	#	-	-
	s.u.	0187	WL	05/02/2007	N001	AL	D	6.52		F	#	-	-
	s.u.	0188	WL	05/02/2007	N001	AL	D	7.19		F	#	-	-

CLASSIC GROUND WATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 11:16 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
pH	s.u.	0189	WL	05/02/2007	N001	AL	D	6.36		FQ	#	-	-
Specific Conductance	umhos/cm	0002	WL	05/02/2007	N001	AL	U	570			#	-	-
	umhos/cm	0005	WL	05/03/2007	N001	AL	O	560		F	#	-	-
	umhos/cm	0062	WL	05/02/2007	N001	AL	O	507		F	#	-	-
	umhos/cm	0063	WL	05/02/2007	N001	AL	O	420		F	#	-	-
	umhos/cm	0064	WL	05/03/2007	N001	AL	O	547		F	#	-	-
	umhos/cm	0065	WL	05/02/2007	N001	AL	O	770		F	#	-	-
	umhos/cm	0066	WL	05/02/2007	N001	AL	O	693		F	#	-	-
	umhos/cm	0067	WL	05/01/2007	N001	AL	O	446		F	#	-	-
	umhos/cm	0102	WL	05/02/2007	N001	AL	U	539			#	-	-
	umhos/cm	0105	WL	05/03/2007	N001	AL	O	518		F	#	-	-
	umhos/cm	0106	WL	05/02/2007	N001	AL	O	2076		FQ	#	-	-
	umhos/cm	0112	WL	05/02/2007	N001	AL	O	954		FQ	#	-	-
	umhos/cm	0113	WL	04/30/2007	N001	AL	D	528		F	#	-	-
	umhos/cm	0125	WL	05/03/2007	N001	AL	D	443		F	#	-	-
	umhos/cm	0126	WL	05/03/2007	N001	AL	D	404		F	#	-	-
	umhos/cm	0127	WL	05/03/2007	N001	AL	D	1075		F	#	-	-
	umhos/cm	0135	WL	05/03/2007	N001	AL	D	422		F	#	-	-
	umhos/cm	0136	WL	05/03/2007	N001	AL	D	678		FQ	#	-	-
	umhos/cm	0160	WL	05/01/2007	N001	AL	D	775		F	#	-	-
	umhos/cm	0161	WL	05/01/2007	N001	AL	D	732		F	#	-	-
	umhos/cm	0181	WL	05/01/2007	N001	AL	D	544		F	#	-	-
	umhos/cm	0183	WL	05/01/2007	N001	AL	D	917		F	#	-	-
	umhos/cm	0186	WL	05/02/2007	N001	AL	D	505		F	#	-	-
	umhos/cm	0187	WL	05/02/2007	N001	AL	D	1129		F	#	-	-
	umhos/cm	0188	WL	05/02/2007	N001	AL	D	733		F	#	-	-

CLASSIC GROUND WATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 11:16 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Specific Conductance	umhos/cm	0189	WL	05/02/2007	N001	AL	D	1890		FQ	#	-	-
Temperature	C	0002	WL	05/02/2007	N001	AL	U	8.74			#	-	-
	C	0005	WL	05/03/2007	N001	AL	O	6.99		F	#	-	-
	C	0062	WL	05/02/2007	N001	AL	O	10.03		F	#	-	-
	C	0063	WL	05/02/2007	N001	AL	O	9.91		F	#	-	-
	C	0064	WL	05/03/2007	N001	AL	O	8.68		F	#	-	-
	C	0065	WL	05/02/2007	N001	AL	O	8.15		F	#	-	-
	C	0066	WL	05/02/2007	N001	AL	O	7.88		F	#	-	-
	C	0067	WL	05/01/2007	N001	AL	O	9.41		F	#	-	-
	C	0102	WL	05/02/2007	N001	AL	U	10.76			#	-	-
	C	0105	WL	05/03/2007	N001	AL	O	9.42		F	#	-	-
	C	0106	WL	05/02/2007	N001	AL	O	10.01		FQ	#	-	-
	C	0112	WL	05/02/2007	N001	AL	O	11.72		FQ	#	-	-
	C	0113	WL	04/30/2007	N001	AL	D	15.44		F	#	-	-
	C	0125	WL	05/03/2007	N001	AL	D	8.44		F	#	-	-
	C	0126	WL	05/03/2007	N001	AL	D	9.87		F	#	-	-
	C	0127	WL	05/03/2007	N001	AL	D	10.41		F	#	-	-
	C	0135	WL	05/03/2007	N001	AL	D	8.04		F	#	-	-
	C	0136	WL	05/03/2007	N001	AL	D	12.4		FQ	#	-	-
	C	0160	WL	05/01/2007	N001	AL	D	7.76		F	#	-	-
	C	0161	WL	05/01/2007	N001	AL	D	7.72		F	#	-	-
	C	0181	WL	05/01/2007	N001	AL	D	7.54		F	#	-	-
	C	0183	WL	05/01/2007	N001	AL	D	8.34		F	#	-	-
	C	0186	WL	05/02/2007	N001	AL	D	8.40		F	#	-	-
	C	0187	WL	05/02/2007	N001	AL	D	8.52		F	#	-	-
	C	0188	WL	05/02/2007	N001	AL	D	8.01		F	#	-	-

CLASSIC GROUND WATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 11:16 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Temperature	C	0189	WL	05/02/2007	N001	AL	D	8.14		FQ	#	-	-
Turbidity	NTU	0002	WL	05/02/2007	N001	AL	U	3.96			#	-	-
	NTU	0005	WL	05/03/2007	N001	AL	O	1.77		F	#	-	-
	NTU	0062	WL	05/02/2007	N001	AL	O	6.05		F	#	-	-
	NTU	0063	WL	05/02/2007	N001	AL	O	8.43		F	#	-	-
	NTU	0064	WL	05/03/2007	N001	AL	O	6.94		F	#	-	-
	NTU	0065	WL	05/02/2007	N001	AL	O	8.89		F	#	-	-
	NTU	0066	WL	05/02/2007	N001	AL	O	5.63		F	#	-	-
	NTU	0067	WL	05/01/2007	N001	AL	O	7.19		F	#	-	-
	NTU	0102	WL	05/02/2007	N001	AL	U	0.76			#	-	-
	NTU	0105	WL	05/03/2007	N001	AL	O	7.08		F	#	-	-
	NTU	0106	WL	05/02/2007	N001	AL	O	21.2		FQ	#	-	-
	NTU	0112	WL	05/02/2007	N001	AL	O	22.8		FQ	#	-	-
	NTU	0113	WL	04/30/2007	N001	AL	D	4.48		F	#	-	-
	NTU	0125	WL	05/03/2007	N001	AL	D	3.15		F	#	-	-
	NTU	0126	WL	05/03/2007	N001	AL	D	2.16		F	#	-	-
	NTU	0127	WL	05/03/2007	N001	AL	D	8.26		F	#	-	-
	NTU	0135	WL	05/03/2007	N001	AL	D	1.01		F	#	-	-
	NTU	0160	WL	05/01/2007	N001	AL	D	6.98		F	#	-	-
	NTU	0161	WL	05/01/2007	N001	AL	D	9.1		F	#	-	-
	NTU	0181	WL	05/01/2007	N001	AL	D	8.8		F	#	-	-
	NTU	0183	WL	05/01/2007	N001	AL	D	9.8		F	#	-	-
	NTU	0186	WL	05/02/2007	N001	AL	D	1.15		F	#	-	-
	NTU	0187	WL	05/02/2007	N001	AL	D	9.6		F	#	-	-
	NTU	0188	WL	05/02/2007	N001	AL	D	0.44		F	#	-	-
	NTU	0189	WL	05/02/2007	N001	AL	D	73.6		FQ	#	-	-

CLASSIC GROUND WATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 11:16 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	SAMPLE: ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	QUALIFIERS: DATA	QUALIFIERS: QA	DETECTION LIMIT	UN-CERTAINTY
Uranium	mg/L	0002	WL	05/02/2007	0001	AL	U	0.003			#	4.6E-06	-
	mg/L	0005	WL	05/03/2007	0001	AL	O	0.076		F	#	4.6E-06	-
	mg/L	0062	WL	05/02/2007	0001	AL	O	0.0085		F	#	4.6E-06	-
	mg/L	0063	WL	05/02/2007	0001	AL	O	0.010		F	#	4.6E-06	-
	mg/L	0064	WL	05/03/2007	0001	AL	O	0.013		F	#	4.6E-06	-
	mg/L	0065	WL	05/02/2007	0001	AL	O	0.033		F	#	4.6E-06	-
	mg/L	0066	WL	05/02/2007	0001	AL	O	0.023		F	#	4.6E-06	-
	mg/L	0067	WL	05/01/2007	0001	AL	O	0.0094		F	#	4.6E-06	-
	mg/L	0102	WL	05/02/2007	0001	AL	U	0.0037			#	4.6E-06	-
	mg/L	0105	WL	05/03/2007	0001	AL	O	0.069		F	#	4.6E-06	-
	mg/L	0106	WL	05/02/2007	0001	AL	O	0.011		FQ	#	4.6E-06	-
	mg/L	0112	WL	05/02/2007	0001	AL	O	0.037		FQ	#	4.6E-06	-
	mg/L	0113	WL	04/30/2007	0001	AL	D	0.081		F	#	4.6E-06	-
	mg/L	0125	WL	05/03/2007	0001	AL	D	0.007		F	#	4.6E-06	-
	mg/L	0126	WL	05/03/2007	0001	AL	D	0.0095		F	#	4.6E-06	-
	mg/L	0127	WL	05/03/2007	0001	AL	D	0.029		F	#	4.6E-06	-
	mg/L	0135	WL	05/03/2007	0001	AL	D	0.001		F	#	4.6E-06	-
	mg/L	0136	WL	05/03/2007	0001	AL	D	0.011		FQ	#	4.6E-06	-
	mg/L	0160	WL	05/01/2007	0001	AL	D	0.023		F	#	4.6E-06	-
	mg/L	0161	WL	05/01/2007	0001	AL	D	0.017		F	#	4.6E-06	-
	mg/L	0181	WL	05/01/2007	0001	AL	D	0.015		F	#	4.6E-06	-
	mg/L	0183	WL	05/01/2007	0001	AL	D	0.056		F	#	4.6E-06	-
	mg/L	0186	WL	05/02/2007	0001	AL	D	0.0088		F	#	4.6E-06	-
	mg/L	0187	WL	05/02/2007	0001	AL	D	0.026		F	#	4.6E-06	-
	mg/L	0188	WL	05/02/2007	0001	AL	D	0.031		F	#	4.6E-06	-
	mg/L	0188	WL	05/02/2007	0002	AL	D	0.032		F	#	4.6E-06	-

CLASSIC GROUND WATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 11:16 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Uranium	mg/L	0189	WL	05/02/2007	0001	AL	D	0.015		FQ	#	4.6E-06	-

CLASSIC GROUND WATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 11:16 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY

RECORDS: SELECTED FROM USEE200 WHERE site_code='GUN01' AND location_code in('0002','0005','0102','0105','0106','0112','0113','0125','0126','0127','0135','0136','0064','0062','0063','0065','0066','0067','0181','0183','0186','0187','0188','0189','0160','0161') AND quality_assurance = TRUE AND (data_validation_qualifiers IS NULL OR data_validation_qualifiers NOT LIKE '%N%' AND data_validation_qualifiers NOT LIKE '%R%' AND data_validation_qualifiers NOT LIKE '%X%') AND DATE_SAMPLED between #4/1/2007# and #5/30/2007#

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LOCATION TYPES: WL WELL

ZONES OF COMPLETION:

AL ALLUVIUM

FLOW CODES: D DOWN GRADIENT O ON-SITE U UPGRADIENT

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
+	Correlation coefficient for MSA < 0.995.
>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic & Radiochemistry: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	Estimated
M	GFAA duplicate injection precision not met.
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compund (TIC).
P	> 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
S	Result determined by method of standard addition (MSA).
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Y	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Z	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.

DATA QUALIFIERS:

F	Low flow sampling method used.	G	Possible grout contamination, pH > 9.	J	Estimated value.
L	Less than 3 bore volumes purged prior to sampling.	N	Presumptive evidence that analyte is present. The analyte is "tentatively identified".	Q	Qualitative result due to sampling technique
R	Unusable result.	U	Parameter analyzed for but was not detected.	X	Location is undefined.

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

Appendix B

Ground Water Quality Data by Parameter for Domestic Wells

CLASSIC GROUND WATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 10:34 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3	mg/L	0080	WL	05/01/2007	0001	AL		214			#	-	-
	mg/L	0081	WL	05/01/2007	0001	AL		208			#	-	-
	mg/L	0082	WL	05/01/2007	0001	AL		249			#	-	-
	mg/L	0468	WL	05/01/2007	0001	AL	D	220			#	-	-
	mg/L	0469	WL	05/01/2007	0001	AL	D	116			#	-	-
	mg/L	0476	WL	05/01/2007	0001			92			#	-	-
	mg/L	0477	WL	05/01/2007	0001			79			#	-	-
	mg/L	0667	WL	04/30/2007	0001	AL	N	87			#	-	-
	mg/L	0683	WL	04/30/2007	0001	AL	N	102			#	-	-
Manganese	mg/L	0080	WL	05/01/2007	N001	AL		0.099			#	8.4E-05	-
	mg/L	0081	WL	05/01/2007	N001	AL		0.240			#	8.4E-05	-
	mg/L	0081	WL	05/01/2007	N002	AL		0.240			#	8.4E-05	-
	mg/L	0082	WL	05/01/2007	N001	AL		0.200			#	8.4E-05	-
	mg/L	0468	WL	05/01/2007	N001	AL	D	0.230			#	8.4E-05	-
	mg/L	0469	WL	05/01/2007	N001	AL	D	0.013			#	8.4E-05	-
	mg/L	0476	WL	05/01/2007	0001			0.0006	B	U	#	8.4E-05	-
	mg/L	0477	WL	05/01/2007	0001			0.0067			#	8.4E-05	-
	mg/L	0478	WL	05/15/2007	0001			0.380			#	8.4E-05	-
	mg/L	0667	WL	04/30/2007	N001	AL	N	0.00036	B	U	#	8.4E-05	-
	mg/L	0683	WL	04/30/2007	N001	AL	N	0.0011	B	U	#	8.4E-05	-
Oxidation Reduction Potent	mV	0080	WL	05/01/2007	N001	AL		-5			#	-	-
	mV	0081	WL	05/01/2007	N001	AL		-10			#	-	-
	mV	0082	WL	05/01/2007	N001	AL		-20			#	-	-
	mV	0468	WL	05/01/2007	N001	AL	D	-48			#	-	-
	mV	0469	WL	05/01/2007	N001	AL	D	4			#	-	-
	mV	0476	WL	05/01/2007	N001			99			#	-	-

CLASSIC GROUND WATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 10:34 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Oxidation Reduction Potent	mV	0477	WL	05/01/2007	N001			81			#	-	-
	mV	0667	WL	04/30/2007	N001	AL	N	157			#	-	-
	mV	0683	WL	04/30/2007	N001	AL	N	125			#	-	-
pH	s.u.	0080	WL	05/01/2007	N001	AL		6.98			#	-	-
	s.u.	0081	WL	05/01/2007	N001	AL		7.41			#	-	-
	s.u.	0082	WL	05/01/2007	N001	AL		7.37			#	-	-
	s.u.	0468	WL	05/01/2007	N001	AL	D	6.95			#	-	-
	s.u.	0469	WL	05/01/2007	N001	AL	D	7.17			#	-	-
	s.u.	0476	WL	05/01/2007	N001			7.51			#	-	-
	s.u.	0477	WL	05/01/2007	N001			7.41			#	-	-
	s.u.	0667	WL	04/30/2007	N001	AL	N	7.11			#	-	-
	s.u.	0683	WL	04/30/2007	N001	AL	N	7.76			#	-	-
Specific Conductance	umhos/cm	0080	WL	05/01/2007	N001	AL		452			#	-	-
	umhos/cm	0081	WL	05/01/2007	N001	AL		337			#	-	-
	umhos/cm	0082	WL	05/01/2007	N001	AL		472			#	-	-
	umhos/cm	0468	WL	05/01/2007	N001	AL	D	724			#	-	-
	umhos/cm	0469	WL	05/01/2007	N001	AL	D	270			#	-	-
	umhos/cm	0476	WL	05/01/2007	N001			225			#	-	-
	umhos/cm	0477	WL	05/01/2007	N001			222			#	-	-
	umhos/cm	0667	WL	04/30/2007	N001	AL	N	242			#	-	-
	umhos/cm	0683	WL	04/30/2007	N001	AL	N	270			#	-	-
Temperature	C	0080	WL	05/01/2007	N001	AL		8.24			#	-	-
	C	0081	WL	05/01/2007	N001	AL		8.58			#	-	-
	C	0082	WL	05/01/2007	N001	AL		10.09			#	-	-
	C	0468	WL	05/01/2007	N001	AL	D	8.82			#	-	-
	C	0469	WL	05/01/2007	N001	AL	D	19.47			#	-	-

CLASSIC GROUND WATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 10:34 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Temperature	C	0476	WL	05/01/2007	N001			15.64			#	-	-
	C	0477	WL	05/01/2007	N001			10.62			#	-	-
	C	0667	WL	04/30/2007	N001	AL	N	19.25			#	-	-
	C	0683	WL	04/30/2007	N001	AL	N	9.63			#	-	-
Turbidity	NTU	0081	WL	05/01/2007	N001	AL		2.83			#	-	-
	NTU	0082	WL	05/01/2007	N001	AL		3.04			#	-	-
	NTU	0468	WL	05/01/2007	N001	AL	D	4.03			#	-	-
Uranium	mg/L	0080	WL	05/01/2007	N001	AL		0.0045			#	4.6E-06	-
	mg/L	0081	WL	05/01/2007	N001	AL		0.0058			#	4.6E-06	-
	mg/L	0081	WL	05/01/2007	N002	AL		0.0055			#	4.6E-06	-
	mg/L	0082	WL	05/01/2007	N001	AL		0.0094			#	4.6E-06	-
	mg/L	0468	WL	05/01/2007	N001	AL	D	0.026			#	4.6E-06	-
	mg/L	0469	WL	05/01/2007	N001	AL	D	0.0017			#	4.6E-06	-
	mg/L	0476	WL	05/01/2007	0001			0.0016			#	4.6E-06	-
	mg/L	0477	WL	05/01/2007	0001			0.0018			#	4.6E-06	-
	mg/L	0478	WL	05/15/2007	0001			0.0022			#	4.6E-06	-
	mg/L	0667	WL	04/30/2007	N001	AL	N	0.0011			#	4.6E-06	-
	mg/L	0683	WL	04/30/2007	N001	AL	N	0.0014			#	4.6E-06	-

CLASSIC GROUND WATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 10:34 am

PARAMETER	UNITS	LOCATION ID	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL	FLOW REL.	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY

RECORDS: SELECTED FROM USEE200 WHERE site_code='GUN01' AND location_code in('0080','0081','0082','0468','0469','0476','0477','0478','0667','0683') AND quality_assurance = TRUE AND (data_validation_qualifiers IS NULL OR data_validation_qualifiers NOT LIKE '%N%' AND data_validation_qualifiers NOT LIKE '%R%' AND data_validation_qualifiers NOT LIKE '%X%') AND DATE_SAMPLED between #4/1/2007# and #5/30/2007#

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LOCATION TYPES: WL WELL

ZONES OF COMPLETION:

AL ALLUVIUM

FLOW CODES: D DOWN GRADIENT N UNKNOWN

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
+	Correlation coefficient for MSA < 0.995.
>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic & Radiochemistry: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	Estimated
M	GFAA duplicate injection precision not met.
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compund (TIC).
P	> 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
S	Result determined by method of standard addition (MSA).
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Y	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Z	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.

DATA QUALIFIERS:

F	Low flow sampling method used.	G	Possible grout contamination, pH > 9.	J	Estimated value.
L	Less than 3 bore volumes purged prior to sampling.	N	Presumptive evidence that analyte is present. The analyte is "tentatively identified".	Q	Qualitative result due to sampling technique
R	Unusable result.	U	Parameter analyzed for but was not detected.	X	Location is undefined.

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

Appendix C

Surface Water Quality Data by Parameter

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 11:17 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3	mg/L	0248	05/02/2007	0001	45			#	-	-
	mg/L	0777	05/01/2007	0001	109			#	-	-
	mg/L	0780	04/30/2007	0001	214			#	-	-
	mg/L	0792	04/30/2007	0001	86			#	-	-
	mg/L	0795	04/30/2007	0001	63			#	-	-
Manganese	mg/L	0248	05/02/2007	0001	0.025			#	8.4E-05	-
	mg/L	0777	05/01/2007	0001	0.073			#	8.4E-05	-
	mg/L	0780	04/30/2007	0001	0.0041	B		#	8.4E-05	-
	mg/L	0792	04/30/2007	0001	0.014			#	8.4E-05	-
	mg/L	0792	04/30/2007	0002	0.013			#	8.4E-05	-
	mg/L	0795	04/30/2007	0001	0.015			#	8.4E-05	-
Oxidation Reduction Potent	mV	0248	05/02/2007	N001	58			#	-	-
	mV	0777	05/01/2007	N001	47			#	-	-
	mV	0780	04/30/2007	N001	153			#	-	-
	mV	0792	04/30/2007	N001	141			#	-	-
	mV	0795	04/30/2007	N001	107			#	-	-
pH	s.u.	0248	05/02/2007	N001	8.36			#	-	-
	s.u.	0777	05/01/2007	N001	8.24			#	-	-
	s.u.	0780	04/30/2007	N001	8.62			#	-	-
	s.u.	0792	04/30/2007	N001	8.12			#	-	-
	s.u.	0795	04/30/2007	N001	7.96			#	-	-
Specific Conductance	umhos/cm	0248	05/02/2007	N001	496			#	-	-
	umhos/cm	0777	05/01/2007	N001	285			#	-	-
	umhos/cm	0780	04/30/2007	N001	540			#	-	-
	umhos/cm	0792	04/30/2007	N001	190			#	-	-
	umhos/cm	0795	04/30/2007	N001	211			#	-	-
Temperature	C	0248	05/02/2007	N001	12.70			#	-	-
	C	0777	05/01/2007	N001	14.61			#	-	-
	C	0780	04/30/2007	N001	17.29			#	-	-
	C	0792	04/30/2007	N001	10.77			#	-	-
	C	0795	04/30/2007	N001	12.95			#	-	-
Uranium	mg/L	0248	05/02/2007	0001	0.014			#	4.6E-06	-
	mg/L	0777	05/01/2007	0001	0.0042			#	4.6E-06	-
	mg/L	0780	04/30/2007	0001	0.014			#	4.6E-06	-
	mg/L	0792	04/30/2007	0001	0.0005			#	4.6E-06	-
	mg/L	0792	04/30/2007	0002	0.0005			#	4.6E-06	-
	mg/L	0795	04/30/2007	0001	0.0005			#	4.6E-06	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE GUN01, Gunnison Processing Site
REPORT DATE: 9/20/2007 11:17 am

PARAMETER	UNITS	LOCATION ID	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY

RECORDS: SELECTED FROM USEE800 WHERE site_code='GUN01' AND quality_assurance = TRUE AND (data_validation_qualifiers IS NULL OR data_validation_qualifiers NOT LIKE '%N%' AND data_validation_qualifiers NOT LIKE '%R%' AND data_validation_qualifiers NOT LIKE '%X%') AND DATE_SAMPLED between #4/1/2007# and #5/30/2007#

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
+	Correlation coefficient for MSA < 0.995.
>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic & Radiochemistry: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	Estimated
M	GFAA duplicate injection precision not met.
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compund (TIC).
P	> 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
S	Result determined by method of standard addition (MSA).
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Y	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Z	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.

DATA QUALIFIERS:

F	Low flow sampling method used.
J	Estimated value.
N	Presumptive evidence that analyte is present. The analyte is "tentatively identified".
R	Unusable result.
X	Location is undefined.
G	Possible grout contamination, pH > 9.
L	Less than 3 bore volumes purged prior to sampling.
Q	Qualitative result due to sampling technique
U	Parameter analyzed for but was not detected.

QA QUALIFIER: # = validated according to Quality Assurance guidelines.